

OR-HD44S

4 by 4 HDMI V1.3 Matrix

Operation Manual



OR-HD44S

Revision History

Version No.	Date	Summary of Change
V1	20081001	Preliminary Release

Precautions

Failure to follow the precautions described below may cause damage to HDMI 1.3 Matrix Box and void the warranty.

- DO NOT open the case. Doing so will void the warranty. If you find problem with it, please return back to your retailer or seller who will assist you or provide you with solution.
- DO NOT use third-Party AC adapter or power cord. Doing so may damage HDMI 1.3 Matrix.
- DO NOT bump, jar or drop contents of the products as it may damage it and result in warranty void.
- DO NOT set any liquids or beverages on the drive as they may damage HDMI 1.3 Matrix.

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1. Introduction

Thank you for purchasing HDMI V1.3 Matrix. While HDMI products are getting more and more popular in the market people usually have more than one HDMI devices and sources in one place. HDMI V1.3 Matrix provides the excellent solution for connecting all the devices and sources together for your convenience use, it also provides you a variety of choices on where to play your images with remote controller. Further, HDMI V1.3 Matrix can transfer Deep Color video and bit stream digital audio with maximum performance and it supports HDMI 1.3, HDCP 1.1 and DVI 1.0.

Please follow this manual to begin enjoying the benefit of your HDMI 1.3 Matrix. We suggest keeping it in a safe place for future reference.

2. Applications

- High performance HDMI 1.3 Matrix of 4 (four) input and 4 (four) output with remote control for you to link with your favor HDMI devices to enjoying movies, music, or games at once.
- When HDMI signal progresses through the system, it is re-timed, and level-compensated.
- Define HDCP, HDMI and DVI source. The LED light will light up to define the input sources' format.
- Switchable EDID function for choosing the native resolution to display.

3. Package Contents

- 4 by 4 V1.3 HDMI Matrix.
- Remote Control CR33 (with Battery)
- IR Receiver
- Power Cord
- DC 5V 6A power supply adaptor.
- Operation Manual.

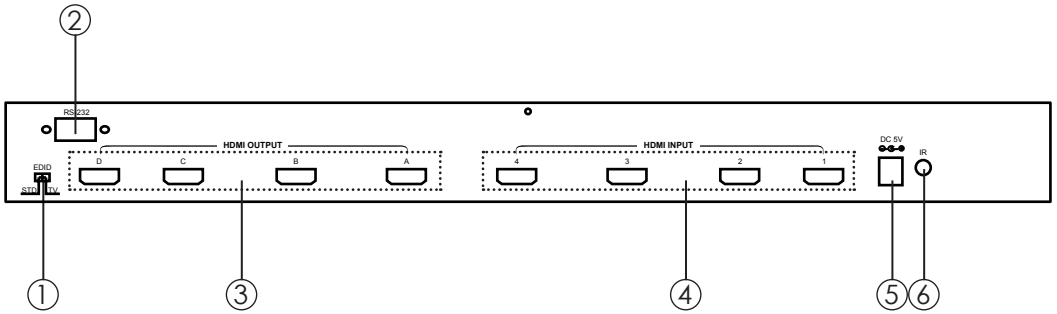
4. System Requirements

HDMI input device(s) and HDMI output device(s).

5. Features

- HDMI 1.3, HDCP 1.1 and DVI 1.0 compliant.
- Supports digital video formats in Deep Color 12bit and new lossless compressed (Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio) digital audio.
- The HDMI input is compensated, clock / phase adjusted, and jitter eliminated so the output is a brand new standard HDMI signal.
- Supports input source LED indicators on each output select.
- Compatible with all HDMI sources and displays.
- Supports a wide range of PC and HDTV resolutions from VGA to UXGA and 480i to 1080p.
- Supports RS-232 control.
- Supports IR remote control and IR extender.
- Dolby Digital, DTS digital audio transmission (32-192 kHz Fs sample rate).
- Supports LPCM7.1 channels output from each independent HDMI ports.
- HDMI cable distance test with 1080p/8bit resolution, the Input/Output source can run up to 15/15 meters. with 1080p/12bit the Input/Output source can run up to 15/6 meters.

6. Installation



- ① EDID Control Switch: Default factory setting is TV, leave as it is when the displays are working properly. Switch to STD to use built-in EDID Detail capability in Note.
- ② RS-232 communication port: Connect the COM port of your PC for the distant control over RS-232 channel. Detail specification in section 9.
- ③ HDMI outputs: Connect each of these output ports to the HDMI display(s).
- ④ HDMI inputs: Connect input ports to the HDMI or DVI output of your source equipment such as DVD player or set-top-box.
- ⑤ Power: Plug the DC 5V 6A power supply into the unit and connect the adaptor to AC wall outlet.
- ⑥ IR extender.

Note: 1. EDID Control Switch: STD(INT) and TV(EXT), Default setting is TV

2. When EDID is on TV: Leave as it is if display is properly, unit will detect the first HDMI output source's EDID and record in the unit. If the first detected output source is DVI it will pass to next source, until the first HDMI been detected. The detection priority is HDMI v1.3 > HDMI v1.2 > DVI.

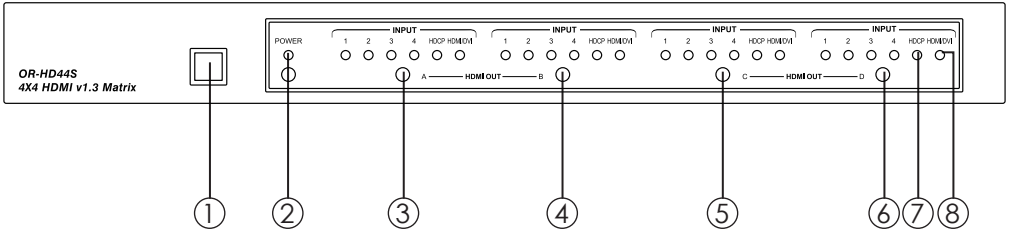
3. When EDID is on STD: unit use built-in EDID

Video Supports->1080p 12bit(max)

Audio Supports->PCM2

4. Your EDID selection will only activated when the unit is replug and power on.

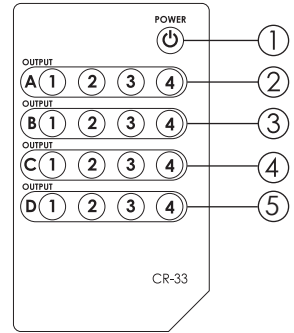
7. Front View



- ① Remote control sensor.
- ② Power switch & LED Indicator: The LED will illuminate when the power is turned on.
- ③ Input Select/Indicators (A): Press the HDMI out "A" button repeatedly to switch to your desired source and the LED will illuminate to indicate which input source is being selected and routed to HDMI A output. Also, when the input source is HDMI/DVI the HDMI/DVI LED will illuminate, if the input source with the HDCP protection the HDCP LED will illuminate.
- ④ Input Select/Indicators (B): Press the HDMI out "B" button repeatedly to switch to your desired source and the LED will illuminate to indicate which input source is being selected and routed to HDMI B output. Also, when the input source is HDMI/DVI the HDMI/DVI LED will illuminate, if the input source with the HDCP protection the HDCP LED will illuminate.
- ⑤ Input Select/Indicators (C): Press the HDMI out "C" button repeatedly to switch to your desired source and the LED will illuminate to indicate which input source is being selected and routed to HDMI C output. Also, when the input source is HDMI/DVI the HDMI/DVI LED will illuminate, if the input source with the HDCP protection the HDCP LED will illuminate.
- ⑥ Input Select/Indicators (D): Press the HDMI out "D" button repeatedly to switch to your desired source and the LED will illuminate to indicate which input source is being selected and routed to HDMI D output. Also, when the input source is HDMI/DVI the HDMI/DVI LED will illuminate, if the input source with the HDCP protection the HDCP LED will illuminate.
- ⑦ HDCP Source light: When the input source(s) have HDCP, HDMI 1.3 Matrix will detect the code and send to output source(s).
- ⑧ HDMI/DVI Source light: When the input source(s) is HDMI format, the led light will light up.

8. Remote Control

1. Power: Press the button to turn on/off the unit.
2. Input Select for HDMI OUT A: Press 1, 2, 3 or 4 to select the desired input source for HDMI OUT A.
3. Input Select for HDMI OUT B: Press 1, 2, 3 or 4 to select the desired input source for HDMI OUT B.
4. Input Select for HDMI OUT C: Press 1, 2, 3 or 4 to select the desired input source for HDMI OUT C.
5. Input Select for HDMI OUT D: Press 1, 2, 3 or 4 to select the desired input source for HDMI OUT D.



9. RS-232 Protocol Pin Definition

OR-HD44S			Remote Control Console	
PIN	Definition		PIN	Definition
1	NC		1	NC
2	Tx		2	Rx
3	Rx	→	3	Tx
4	NC		4	NC
5	GND		5	GND
6	NC	←	6	NC
7	NC		7	NC
8	NC		8	NC
9	NC		9	NC

Baud Rate: 9600bps

Data bit: 8bits

Parity: None

Stop bit: 1bit

Flow Control: None

4.4 RS-232 Protocol

4.4.1 Pin Definition

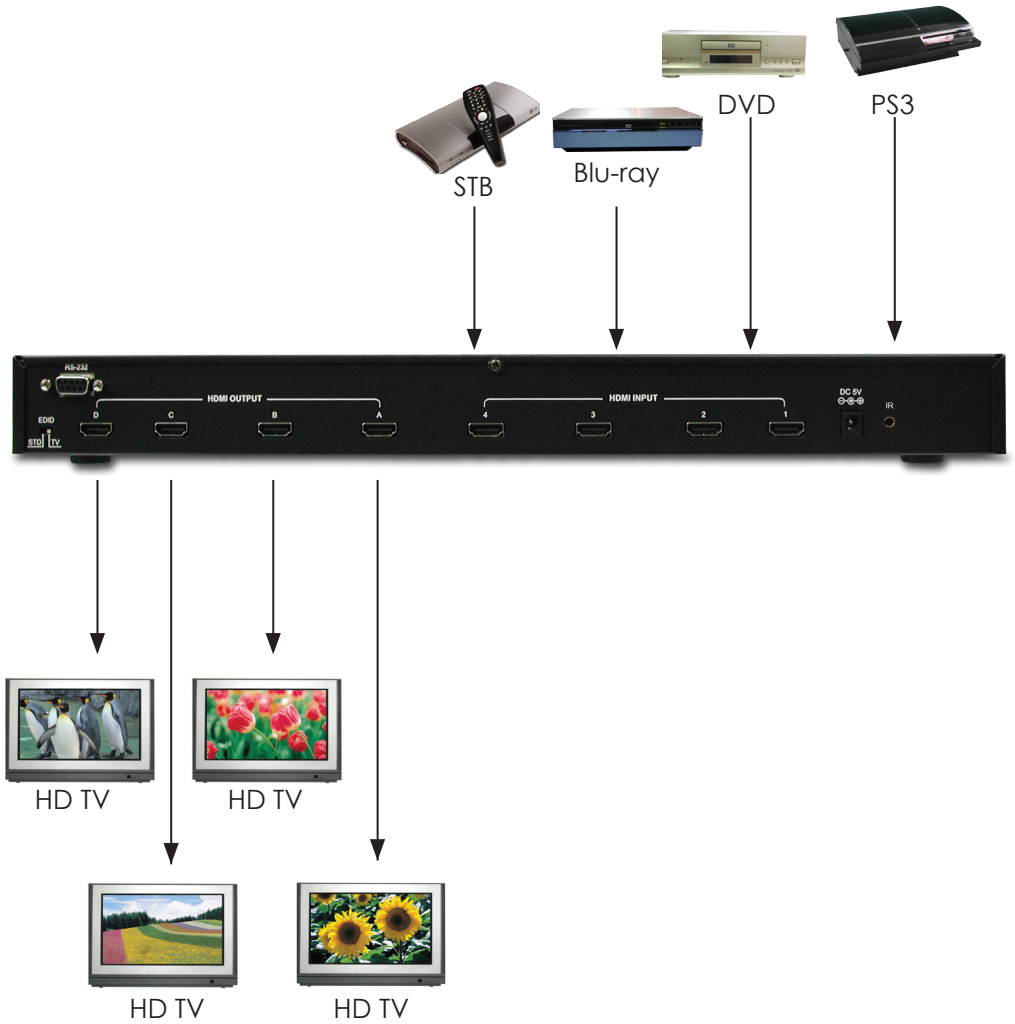
CMLUX-44S			Remote Control Console	
PIN	Definition		PIN	Definition
1	NC	→ ←	1	NC
2	Tx		2	Rx
3	Rx		3	Tx
4	NC		4	NC
5	GND		5	GND
6	NC		6	NC
7	NC		7	NC
8	NC		8	NC
9	NC		9	NC

* RS-232 transmission format:
 Baud Rate: 9600 bps
 Data bit: 8 Bits
 Parity: None
 Stop Bit: 1 bit

4.4.2 Commands

COMMAND	ACTION Power Off (standby)
POWER 00	Power Off (standby)
POWER 01	Power On
PORT 11	Output A select Input1
PORT 12	Output A select Input2
PORT 13	Output A select Input3
PORT 14	Output A select Input4
PORT 21	Output B select Input1
PORT 22	Output B select Input2
PORT 23	Output B select Input3
PORT 24	Output B select Input4
PORT 31	Output C select Input1
PORT 32	Output C select Input2
PORT 33	Output C select Input3
PORT 34	Output C select Input4
PORT 41	Output D select Input1
PORT 42	Output D select Input2
PORT 43	Output D select Input3
PORT 44	Output D select Input4
ST	Display the current matrix status and F/W version

10. Connection and Installation



11. Specifications

Frequency Bandwidth	2.25Gbps (single link)
Input Ports	4 x HDMI female ports,
Output Ports	4 x HDMI female ports
EDID	Standard, TV/Moving Port 1
HDMI Audio Output	PCM2, PCM5.1, PCM7.1, Dolby5.1, DTS5.1, DD+, D-TrueHD, DTS-HD
HDMI Cable in	1080p 8bit (15M), 1080p 12bit (15M)
HDMI Cable out	1080p 8bit (15M), 1080p 12bit (6M)
Color Space	RGB_24/36, YCbCr 4:4:4_24/36, YCbCr 4:2:2, xvyycc
IR	Yes
Deep Color	1080p 12bit
HDMI Resolution	480I~1080p 50/60, 1080p 24, VGA~UXGA
DVI Resolution	480I~1080p 50/60, 1080p 24, VGA~UXGA
Power Supply	DC 5V 6A (US/EU standards, CE/FCC/UL certified)
Dimensions (mm)	438(W) x 175(D) x 49(H)
Weight(g)	3100
Chassis Material	Metal
Silkscreen Color	Black
Operating Temperature	0°C ~ 40°C
Power Consumption	16.5W(Max)

